Development tasks, Manpower plans and ideas, Goals for these next MD measurements

What do we need to get ready? What would be nice to get ready?

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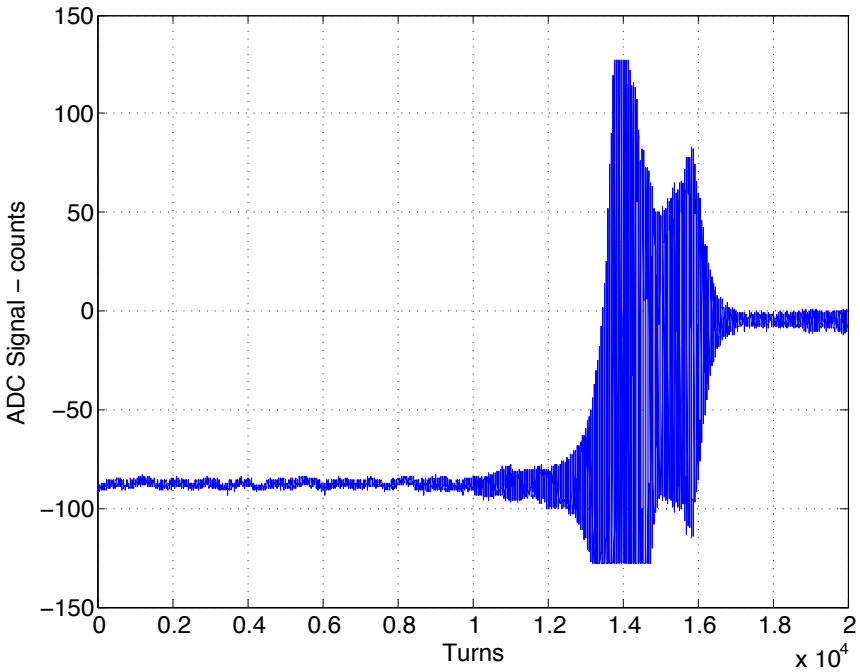
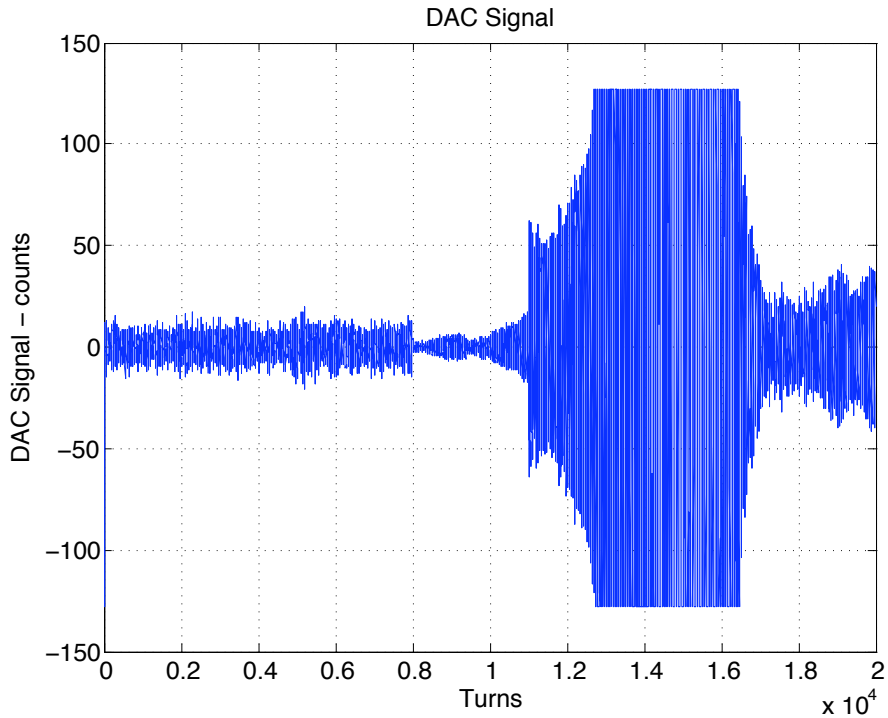
Planning for Fall 2014 MD studies

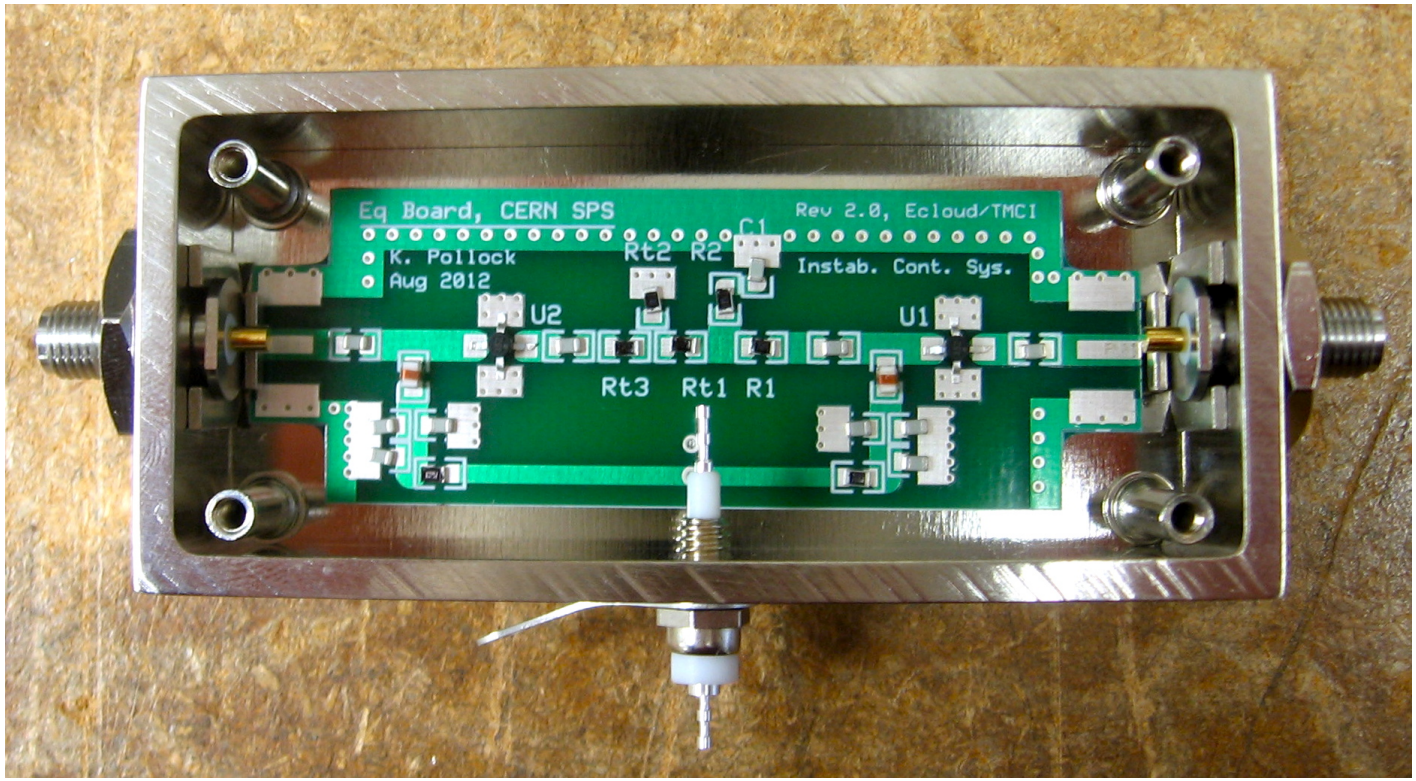
- Discussion - what did we accomplish in the fall/winter 2012/2013 studies
- What did we learn? How should we improve?
- Ideas for next Studies





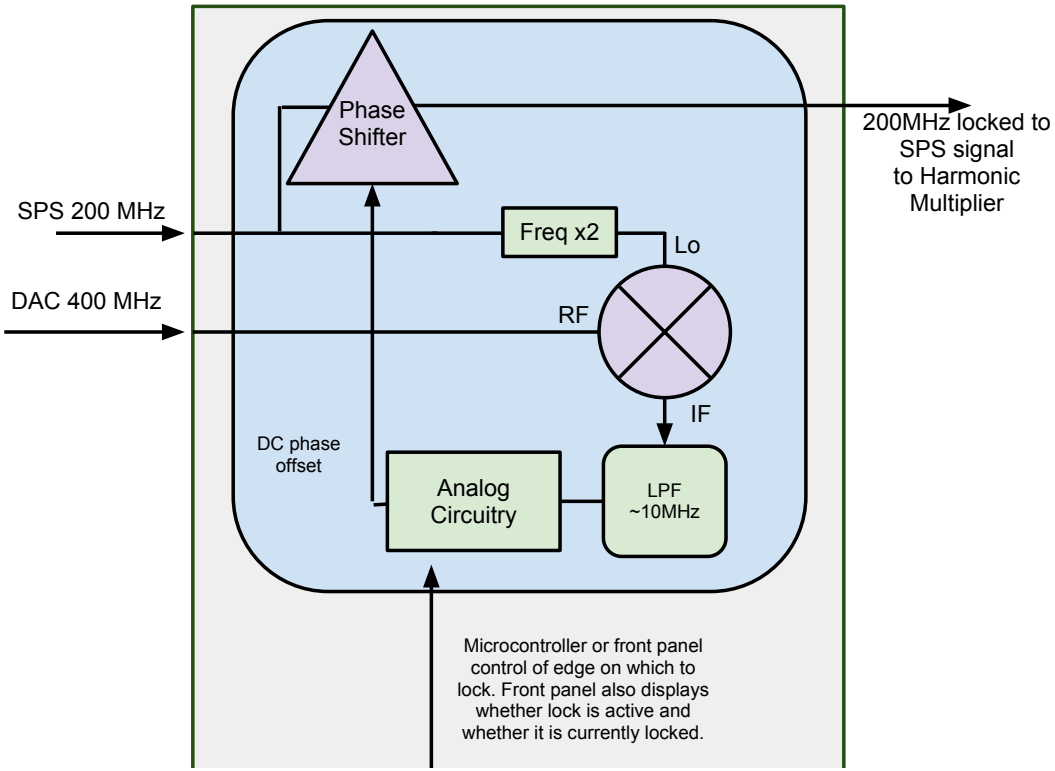
Hardware readiness - Front End Receiver

- We want to re-measure the front end equalizer, particularly signal levels, and possible harmonics generated at high levels.
- Do we want to make a spare equalizer?
- Manpower - Volunteers?



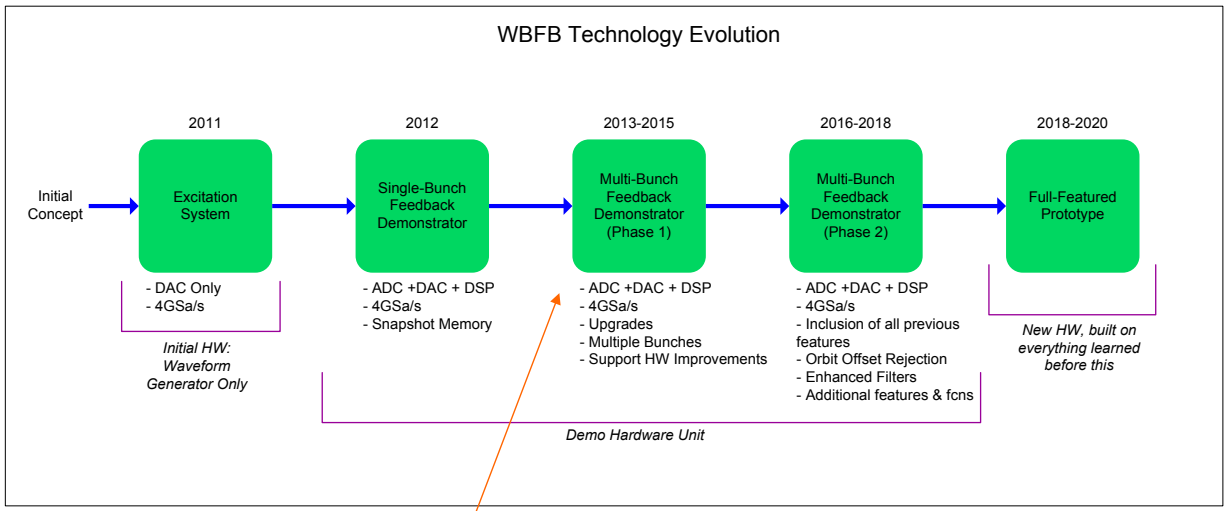
Hardware readiness - Timing sub-system

- Did we ever really understand the origin of the aliased lines seen the TEK data? Was it from a re-synchronization of the revolution fiducial with the RF clock signal?
- Issue of arbitrary power-up state of the DAC mux, need to re-time
- Development of back-end high-speed clock phase servo
- We should have this for the next MD series
- Manpower - John F. and Jamie G. Volunteers?



Hardware readiness - DEMO system

- Documentation of issues from last measurements
- Operations GUI - needs improvements
- Ongoing development - improved ADC grounding (improve aliased clock lines seen in tests)
- New FPGA software/features for fall (Priority order?)
  - Synchronized Excitation with feedback record (simpler timing)
  - Multi-bunch control
  - Single bunch at full 4 GS/sec sampling rate
- When to send to CERN?



→ We are now in the process of adding functions and features that further expand not only the demo system but other system hardware:

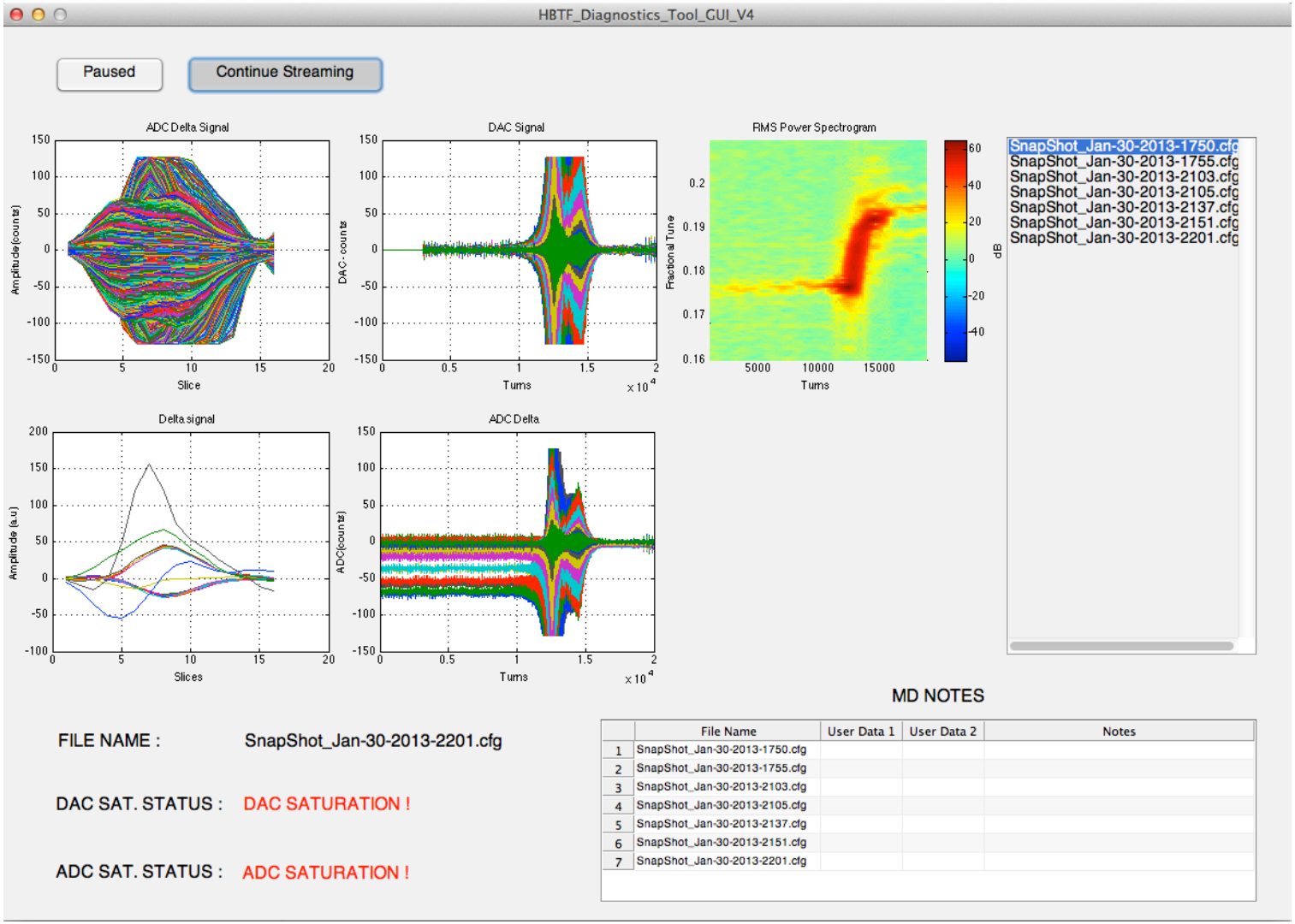
- Upgrade the Demo Feedback Processor
- Develop timing functions: Synchronization and Energy ramp delay control
- New RF Power Amplifier evaluation & characterization

Hardware readiness - Power Amplifier Evaluation

- State of Existing AR-KALMUS amplifiers - need to repair? Modify?
- Amplifier Evaluations (Kristin's Report)
  - AR-Kalmus 2300
  - AR 1000AM4
  - Milmega
  - R&K
- R&K looked most useful, they want to modify and submit for re-tests
- second phase of evaluations
  - AR Engineering model 80 - 1000 MHz
  - Rhode and Shwarz
  - Intertronic proposal
  - Ophir?
  - Improved R&K?
- What do want to do with the new kickers? Drive them with .....?

Analysis and software readiness

- Past MD measurements - limited tools to look at data as it was taken
- Tools we have in development - Ozhan's on the fly data summary



Manpower readiness

- We need to identify teams of skills, so that we can support MD series next fall/winter
  - Accelerator Physics skills
  - Hardware skills, familiarity with operation
  - Data Processing and analysis Skills
  - MD operations (timing of system, checking signal levels, proper configurations)
  - MD planning - what do we want to do? and in what order?
- Can we expand our MD skill set, and have more capable teams, by expanding with collaborators from BNL, LBL and KEK? How to effectively integrate skills, develop expertise
- How do we best coordinate these measurements with the Simulation effort?

Let's plan